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05/27/2008 03:40 PM

To Jessica.White@noaa.gov, PWINSOR@tceq.state.tx.us,
Anna Milburn/R6/USEPA/US@EPA, Kenneth
Shewmake/R6/USEPA/US@EPA, Barry
cc Gloria-Small Moran/R6/USEPA/US@EPA

bcc

Subject Fw: Falcon - EPA's Comments on NORCO's Draft
Deliverables and Meeting Held on April 14th in Austin

Found one error on the section on "background." It should read "inorganics" and not "organics." Please forward.

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Assigned Sites for Investigation and Remediation (<http://www.epa.gov/earth1r6/6sf/6sf-tx.htm>):
Brine Service Company Superfund Site (Corpus Christi, Texas)
Falcon Refinery Superfund Site (Ingleside, Texas)
Many Diversified Interests, Inc. Superfund Site (Houston, Texas)

----- Forwarded by Rafael Casanova/R6/USEPA/US on 05/27/2008 03:39 PM -----

**Rafael
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05/27/2008 01:32 PM

To Jessica White, Phillip Winsor, Anna Milburn/R6/USEPA/US,
Kenneth Shewmake/R6/USEPA/US, Barry
Forsythe/R6/USEPA/US, Tammy Ash
cc Gloria-Small Moran/R6/USEPA/US@EPA
Subject Falcon - EPA's Comments on NORCO's Draft Deliverables
and Meeting Held on April 14th in Austin

Hello all, attached are EPA's comments concerning the maps/tables submitted by NORCO in March 2008 and the data presented at the April 14th meeting in Austin. Attachment 1 is included as a pdf file.

Jessica, Phillip, please forward this e-mail to your contact list and remind them to provide written comments to me before the conference call on Friday so that I may compile any additional comments.

The call-in number for the conference call on Friday May 30th at 2 pm is 214-665-8114. The purpose of the call is to discuss your review of the maps/tables submitted in March 2008 (and May 2008 if reviewed) and comments concerning the April 14th meeting in Austin. A final decision will be made after the submittal of the revised maps/tables regarding additional sampling for Phase II of the RI

EPA's Comments

Maps and Tables

The maps/tables are extremely difficult to interpret (due to paper size, quality, and other factors), contained incorrect or incomplete information, and did not follow the requirements of the Remedial Investigation and Feasibility Study (RI/FS) Work Plan approved by the EPA in 2007. Attachment 1 (Many Diversified Interests, Inc. Superfund Site) includes a map that is acceptable to the EPA for purposes of this RI/FS. The additional information provided in this enclosure shall be included in the next draft deliverable. Following are the recommendations of the Site Team for the revision and presentation of the maps/tables:

- a. Separate maps shall be prepared for each Area of Concern (AOC), medium (soil, sediment, ground water, and surface water), and organic/inorganic. These maps shall include the sample interval from where the sample was taken. These maps shall facilitate the determination of the distribution of each organic/inorganic within each AOC and medium of concern.
- b. Each map/table shall include the correct data qualifiers identified in the analytical data packages submitted by Accutest Laboratories. These data qualifiers include "U" (undetected at the sample detection limit [SDL]), "J" (concentration greater than the SDL but less than the method quantitation limit [MQL]), "B" (found in the method blank for organics), and "B" (concentration greater than the SDL but less than the MQL for inorganics). The maps/tables shall contain the information required to facilitate comparison with the analytical data packages submitted by Accutest Laboratories.
- c. Each map/table shall depict those values "Undetected" at the SDL for comparison with the appropriate screening value. SDLs greater than the appropriate screening value shall be flagged (e.g., by color coding).
- d. Each map/table shall include "Detected" and "Estimated" concentrations. Those concentrations that exceed the appropriate screening value shall be flagged (e.g., by color coding). Exceedances of a screening level shall clearly indicate which standard was exceeded.
- e. Maps/tables shall be included for all organics/inorganics, including background. Maps/tables shall be submitted for additional organics/inorganics (e.g., among others, hexavalent chromium, phenanthrene, toluene, ethylbenzene, xylene, vanadium, barium, beryllium, copper, and nickel) detected above the MQL or detected at concentrations greater than the SDL but less than the MQL.
- f. Each sample location depicted on a map/table shall be referenced to the appropriate analytical data package prepared by Accutest Laboratories. The "Client Sample ID" and "Lab Sample Number," included in the analytical data packages, shall be cross-referenced with an appropriate sample location.
- g. Each map/table shall include every location sampled during the 2007 and 2008 sampling event.

- h. Each map/table shall include all appropriate screening levels. Additionally, each map/table shall include the correct screening levels (e.g., the map provided for “Magnesium, Aqueous” contained the incorrect human health screening levels.
- i. The ground water data, included with each map/table, shall be screened against the Maximum Contaminant Level (MCL), unless the MCL is not available. Additionally, the MCL is not an appropriate screening level for surface water. Surface water is not a drinking water source in this case and should be evaluated for the potential to contaminate fish, taking into consideration other routes of exposure such as incidental ingestion and dermal exposure, etc.
- j. Separate human health and ecological maps/tables shall be prepared.
- k. All samples results shall be included in the appropriate spreadsheets to allow for an evaluation of the data.
- l. A text summary of the results shall be provided.

Areas of Concern

NORCO’s discussion concerning the use of AOCs in the interpretation of the analytical data, for a determination of the appropriate number of samples and for use in the risk assessments, is not consistent with the requirements of the RI/FS Work Plan approved by the EPA in 2007. The term AOC is synonymous with “operable unit” (OU). Each AOC, or OU, shall be investigated as a separate “theoretically” homogenous unit. The appropriate number of samples can then be determined, and the baseline risk assessment and other risk information gathered will provide the justification for taking an action for an AOC. At the same time, risk assessors shall consider other potential exposure pathways associated with other AOCs, thus considering risks from all related AOCs (e.g., the ground water migration of contaminants, from AOC-1 South Site, into the sediments or surface waters of AOC-3 [wetland area]).

Background

A statistical evaluation of the background concentrations of organics shall be performed based on the guidance document(s) previously provided to NORCO in EPA’s earlier comments on the RI/FS deliverables. Background concentrations generally cannot be used as a justification for the elimination of organics/inorganics from further investigation or study.

Visual Sample Plan Software

Visual Sample Plan (VSP) software will not determine whether a risk assessment is needed for this Site. VSP is useful in determining whether the appropriate number of samples have been collected for each media and AOC based on the distribution of each organic/inorganic within an AOC and respective media of concern. A risk analysis is

unrelated to VSP. Risk assessments, required by statute and regulation, shall be performed for this Site. Kleinfelder's draft VSP submissions indicated that the data collected are considered normally distributed. Environmental data are seldom normally distributed. A statistical test shall be performed to identify the best distributional assumption for each data set. Additionally, it is not appropriate to combine, for example, the surface water and ground water sampling data points in a VSP evaluation.

Hazard Ranking System Analytical Data

The Hazard Ranking System analytical data shall not be combined with the data obtained from the 2007/2008 RI sampling event for a determination of the appropriate number of samples for each AOC or for risk assessment calculations. The HRS data can be used during the uncertainty analysis for the risk assessments.

Exceedance of Screening Levels

Based on a review of the maps submitted by NORCO in March 2008, the following organics/inorganics exceeded their respective screening levels. Due to the formatting of the draft deliverables, additional exceedances may have been overlooked. The EPA did not review the draft deliverables submitted in May 2008 due to formatting and other issues that made the presented data difficult to interpret.

a. AOC-1 North Site Ground Water

1. Aluminum, at TW01-18, exceeded the human health ground water PCL.
2. Arsenic, at several locations, exceeded the human health ground water MSSL.
3. Benzene; at TW01-02, TW01-11, and TW01-07, exceeded the human health ground water MSSL and TCEQ PCL. It also exceeded the human health ground water MCL at TW01-07.
4. Thallium, at several locations, exceeded the human health ground water PCL.

b. AOC-1 North Site Soil

1. Aluminum, at several locations, exceeded the human health soil TCEQ PCL.
2. Arsenic, at several locations, exceeded the human health soil MSSL.
3. Benzo(a)anthracene, at several locations, exceeded the human health soil MSSL.
4. Benzo(a)pyrene; at J-04S, J-09S, and J-12S; exceeded the human health soil MSSL.
5. Benzo(b)fluoranthene, at J-09S and J-12S, exceeded the human health soil MSSL.
6. Chrysene, at J-03S and J-04S, exceeded the human health soil MSSL.
7. Indeno(1,2,3-cd)pyrene, at J-09S and J-12S, exceeded the human health soil MSSL.

c. AOC-1 South Site Ground Water

1. Arsenic, at several locations, exceeded the human health ground water MSSL.
2. Benzene; at TW01-18, exceeded the human health ground water TCEQ PCL.
3. Lead, at TW01-34, exceeded the human health ground water MSSL and TCEQ PCL.

d. South Site Soil

1. Arsenic, at several locations, exceeded the human health soil MSSL.
2. Benzo(a)anthracene, at J-14S, exceeded the human health soil MSSL.
3. Benzo(a)pyrene, at J-14S, exceeded the human health soil MSSL.
4. Benzo(b)fluoranthene, at J-14S, exceeded the human health soil MSSL.

e. AOC-3 Wetland Area Surface Water

1. Lead, at J-57SW, exceeded the ecological surface water screening level.
2. Magnesium, at several locations, exceeded ecological the surface water screening level.
3. Thallium, at G-47SW, exceeded the ecological surface water screening level.
4. Magnesium, at several locations, exceeded the surface water screening level.

f. AOC-3 Wetland Area Sediment

1. Arsenic, at G-46SD, exceeded the ecological sediment screening level.
2. Bis(2-ethylhexyl)phthalate; at G-29SD, G-43SD, G-45SD, and G-46SD; exceeded the ecological sediment screening level.
3. Zinc, at several locations, exceeded the ecological sediment screening level.

g. AOC-3 Wetland Area Soil

1. Benzo(b)fluoranthene, at J-51S, exceeded the human health soil MSSL.

h. AOC-4 Current Barge Docking Facility Soil

1. Arsenic, at Composite 5, exceeded the human health soil MSSL.
2. Benzo(a)anthracene, at Composite 5, exceeded the human health soil MSSL.
3. Benzo(a)pyrene, at Composite 5, exceeded the human health soil

MSSL.

4. Benzo(b)fluoranthene, at Composite 5, exceeded the human health soil MSSL.

5. Indeno(1,2,3-cd)pyrene, at Composite 5, exceeded the human health soil MSSL.

i. AOC-5 Redfish Bay Surface Water

1. Lead; at J-59SW, J-60SW, J-61SW; exceeded the ecological surface water screening level.

2. Magnesium, at several locations, exceeded the surface water screening level.

3. Lead, at J-58SW, exceeded the ecological surface water screening level.

4. Magnesium, J-58SW, exceeded the ecological surface water screening level.

j. AOC-5 Redfish Bay Sediment

1. Benzo(a)anthracene, at J-60SD, exceeded the ecological sediment screening level.

2. Benzo(a)pyrene, at J-60SD, exceeded the ecological sediment screening level.

3. Chrysene, at J-60SD, exceeded the ecological sediment screening level.

4. Lead, at J-60SD, exceeded the ecological sediment screening level.

5. Mercury, at J-60SD, exceeded the ecological sediment screening level.

6. Pyrene, at J-60SD, exceeded the ecological sediment screening level.

7. Zinc, at J-60SD, exceeded the ecological sediment screening level.

k. AOC-7 Bishop Road Soil

1. Arsenic, at J-65S, exceeded the human health soil MSSL.

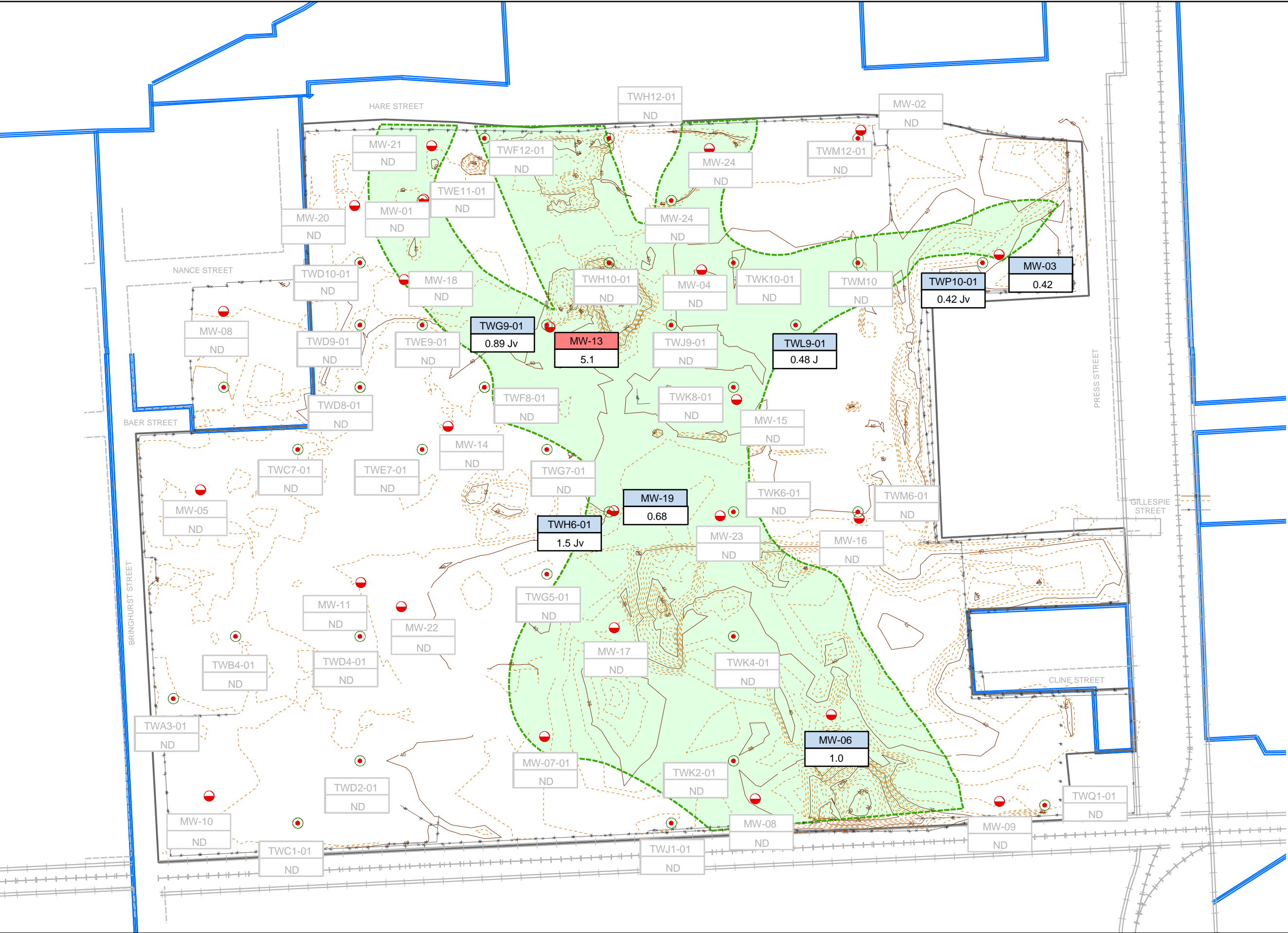


sample map.pdf

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Legend

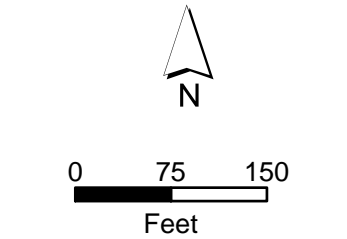
- Temporary Well Location
- Monitoring Well Location
- Approximate Extent of Foundry Sands
- Fence
- Street
- Railroad
- Main Contour Interval (1 foot separates intervals)
- Intermediary Contour Interval
- Subdivision Boundary
- Site Boundary

Notes:

- Results are posted in µg/L
- ND = Compound not detected at concentration above reporting limit.
- Federal Maximum Contaminant Level (MCL) = 5 µg/L
- EPA Region 6 Tap Water Standard = 0.35 µg/L
- Qualifiers:
 - J = Estimated value
 - v = Reported concentration may be biased low due to interferences

Concentration exceeds EPA Region 6 tap water standard

Concentration exceeds Federal MCL



**MDI SUPERFUND SITE
HOUSTON, TEXAS**

**FIGURE 22
DETECTION OF BENZENE
IN GROUND WATER**

PREPARED FOR: BY: